



A.D. 1862, 16th APRIL. N° 1105.

SPECIFICATION

OF

MATTHEW CARTWRIGHT.

MODELS AND PLATES FOR ARTIFICIAL
TEETH.

LONDON

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A.D. 1862, 16th APRIL. N° 1105.

Models and Plates for Artificial Teeth.

(This Invention received Provisional Protection only.)

PROVISIONAL SPECIFICATION left by Matthew Cartwright at the Office of the Commissioners of Patents, with his Petition, on the 16th April 1862.

I, MATTHEW CARTWRIGHT, of St. John's Row, Hoxton, in the County of Middle-
5 sex, Dentist, do hereby declare the nature of the said Invention for "IMPROVE-
MENTS IN THE MANUFACTURE OF MODELS AND OF PLATES OR PIECES FOR ARTIFICIAL
TEETH, AND IN COMBINING OR AMALGAMATING INDIA-RUBBER AND GUTTA PERCHA
WITH METALS FOR THE MANUFACTURE OF ARTIFICIAL PLATES OR PIECES, AND FOR
OTHER PURPOSES," to be as follows:—

10 My Invention consists, first, in making models used in preparing plates or
pieces for artificial teeth of vulcanite, ebonite, or hardened rubber, alone or
combined with soft vulcanized rubber, in the manner hereafter described. I
take a cast or impression of the mouth in wax, coat the surface of it with
plaster of Paris, and when dry paint it with a mixture composed of oil and
15 vermilion. The cast or impression then receives a second coat of plaster,
which when dry again receives a coat of oil and vermilion, and so on until it
is sufficiently thick for the purpose to which it is to be applied. The wax is
removed, and the whole is coated with vermilion and oil, as before. The
model just made is inserted in the lower half of a flask containing liquid
20 plaster, from which, when hardened, the model is removed, and its counterpart
or impression is reproduced in the plaster. The space formed by the model in
the plaster is now filled with wax, and the rest of the plaster coated with

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vermilion and oil. The upper half or portion of the flask is now placed on the lower half and filled with liquid plaster, a cover is placed on it, and the whole allowed to harden. The upper and lower flasks are now divided, the wax in the lower flask is picked out, and the space thereby formed is filled up with the composition of india-rubber to form vulcanite. The flasks are again put 5 together, heated, and subjected to pressure in the ordinary manner; and the rubber is finally vulcanized. This done the flasks are opened and the model removed. To produce a counter-model in vulcanite I coat the vulcanite model with blacklead, lampblack, bronze, goldbeater's skin, or other suitable material, and place it in the lower half of the flask (that part representing the 10 mouth being uppermost) which contains soft plaster where it is allowed to harden. The whole, or as much of the model as necessary, is now covered with wax, and the lower half painted in the ordinary manner. The upper half of the flask, which is filled with plaster, is now put on, the lid is also placed on and the whole allowed to harden. This accomplished the flasks are sepa- 15 rated, the wax removed, and india-rubber composition inserted in the cavity it occupied. The flasks are again put together, heated, pressed, and the india-rubber vulcanized in the ordinary manner.

Sometimes I form the models and their counterparts by painting the india-rubber when in a liquid state on the model, each coat being dry before the 20 next is applied.

When an elastic model is required, soft and hard rubber are used alternately; or hard rubber in combination with cotton, or any other material capable of rendering it elastic. For rendering plates or pieces suitable for palates, gums, or bands elastic I coat the base with, for example, two coats of 25 hard rubber, then I apply a series of coats of soft rubber, and so on according to the degree of thickness and elasticity required, and this may be done in combination or not with any other material capable of rendering it elastic, such as cotton, cotton fabric, asbestos. Where strength is required hard rubber must exceed the soft, and where elasticity is required the soft rubber 30 must exceed the hard. Plates or pieces made in the manner before described may be coated with crystal, or plastic gold, gold leaf, platina leaf, tinfoil, gold shell, silica, filings of gold, or other metal, in the following manner:—I adapt crystal or plastic gold to the models by consolidating it on them, the surface of the gold being roughened; the gold then receives a coating of liquid 35 composition to form vulcanite; the model is then placed in a "digester," or oven to heat it. When removed it is again coated with a composition, as before, and so on until the desired thickness is obtained. When perfectly solid another layer, or even two or more layers of hard india-rubber is or are

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added, and crystal gold adapted to it. The whole is vulcanized. I adapt gold leaf, tin or platina foil to the models by means of a sponge or other soft material (when thick foil is used it must be rendered porous); the foil then receives a coating of hard india-rubber, and is heated. The upper part of the
5 piece is coated with gold filings, precipitated gold, or gold shell by scattering the filings upon the surface previous to its being dry, and applying the gold shell when the surface is partially dry. To cover that part fitting the mouth with gold shell I paint the model with it by means of a camel-hair brush. In all cases I prefer the metal leaf to be roughened. To apply silica to the
10 plates I take an impalpable powder of it and paint it on by dipping the brush in a solution of sugar and water. The silica may be colored when desired.

My Invention in so far as it regards the combination of india-rubber and gutta percha with metals for the manufacture of artificial plates or pieces, and for other purposes, consists in reducing the rubber or gutta percha to a liquid
15 state, and mixing (say) gold therewith. The rubber or gutta percha thus treated is thereby colored, and to all appearance resembles a piece of pure gold. This part of my Invention is applicable to ornamenting india-rubber and gutta percha articles generally, the quantity of metal being regulated according to the color or design to be produced.

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